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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

July 17, 1998

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, DC 20554

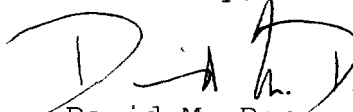
Re: Revision of the Commission's Rules to Ensure
Compatibility with Enhanced 911 Emergency Calling
Systems, CC Docket No. 94-102.

Dear Ms. Salas:

Pursuant to the Commission's rules, enclosed please find two copies of the attached letter and the enclosed strongest signal analysis which were sent today to the following:

Chairman William E. Kennard	Commissioner Susan Ness
Commissioner Gloria Tristani	Commissioner Harold Furchtgott-Roth
Commissioner Michael Powell	Daniel Phythyon
Ari Fitzgerald	David Wye
Paul E. Misener	Karen Gulick
Peter A. Tenhula	David R. Siddall
Nancy Boocker	John Cimko, Jr.
F. Ronald Netro	Martin Liebman
Won Kim	

Sincerely,

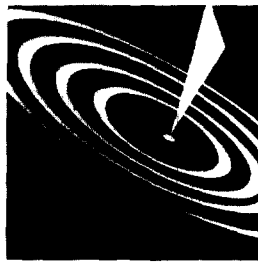

David M. Don

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Enclosure

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TruePosition
Wireless Location System

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**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY**

July 17, 1998

Re: Revision of the Commission's Rules to Ensure
Compatibility with Enhanced 911 Emergency Calling
Systems, CC Docket No. 94-102.

Dear :

I have enclosed for your information a legal analysis of the strongest signal proposal prepared by Willkie Farr & Gallagher. It concludes that the proponent of this proposal has failed to meet the administrative law threshold for the creation of new regulatory requirements. Because the proponent has failed to prove that a systematic problem exists, and that its proposal can survive the scrutiny of even a minimal cost benefit analysis, the Commission should not impose a strongest signal requirement on wireless carriers.

I hope you find this analysis helpful in your deliberations. If you would like to discuss this further, or TruePosition's views on other E911 issues, please feel free to call.

Sincerely,

Michael Amarosa

Enclosure

cc: Magalie Roman Salas

WILLKIE FARR & GALLAGHER

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Washington, DC
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LEGAL ANALYSIS OF THE STRONGEST SIGNAL PROPOSAL FOR WIRELESS E911

Introduction

The Commission has provided two opportunities for comment on the so-called strongest signal proposal since 1995.¹ Only one party has supported its inclusion in the wireless E911 mandates, the Ad Hoc Alliance for Public Access to 911 ("Alliance").

In this matter, as in administrative law generally, the proponent of a new government requirement must carry the burden of proving that the requirement is necessary and cost effective. This the Alliance has been unable to do. On the basis of the record assembled, the Commission must conclude that:

- strongest signal supporters have been unable to prove that a need exists for a new rule;
- the asserted benefits of the strongest signal requirement are exceeded by its costs.

I. The Ad Hoc Alliance Has Failed To Adequately Demonstrate A Problem Requiring Commission Resolution.

Although perhaps obscured by extensive discussion of the technical considerations which may support adoption or repudiation of the strongest signal requirement, there is a fundamental administrative law requirement that must be met: the Commission must satisfy itself that a demonstrable need for the proposed regulation exists. Though the Commission has expansive

¹ Comments were first filed in November, 1995 and once again in response to the Further Notice of Proposed Rulemaking in the above-captioned docket.

authority to implement comprehensive regulations that are in the public interest, such as the E911 mandates in this docket, "regulation perfectly reasonable and appropriate in the face of a given problem may be highly capricious if that problem does not exist."² In this instance, the record indicates that the strongest signal proposal is a solution searching for a problem sufficiently extensive to warrant government intervention.

Examination of the Alliance's claims reveals a shifting basis for seeking Commission action. Explicitly, the Alliance contends that there is an intrinsic public benefit to be realized if calls are transmitted over the strongest signal. In other words, transmission of calls along the strongest signal is an end in and of itself.³ Implicitly, the Alliance would have the Commission infer from two tragic anecdotes that cellular callers have been unable to reach assistance and that this is a network

² Home Box Office, Inc. v. F.C.C., 567 F.2d 9, 36 (D.C. Cir. 1977) (citation omitted) (emphasis added).

³ The record demonstrates that while the strongest signal requirement would secure the strongest control channel, there is no guarantee that the quality of the voice channel over which the call would travel would be better. The public safety community notes that "the strongest control channel will not always deliver the strongest voice channel." Ex Parte filing of NENA, APCO, and NASNA at 2, CC Docket No. 94-102 (filed February 23, 1998) ("Public Safety Commenters"). Bell Atlantic NYNEX Mobile clarifies that "the call set-up channel that measures the strength of the signal is not the channel on which the call is actually completed. These two channels are unrelated. A 'strongest signal' standard could not measure either traffic or interference levels on the call delivery channel. The strength of the signal, therefore, is not necessarily an indication of the ability to complete a call." Comments of Bell Atlantic NYNEX Mobile at 6 (filed September 25, 1996).

wide deficiency requiring government intervention.⁴ Neither proposition is sustainable on the present record, and, in any event, the Alliance's strongest signal solution is an inadequate response.

Through its anecdotal evidence, the Alliance would have the Commission conclude that evidence of some cellular calls not getting through is evidence of too many calls not getting through. Some calls may not reach PSAPs as a result of tower siting constraints and the fact that wireless networks are still being constructed. Even when fully developed, limitations such as radio propagation characteristics and the fact that networks are built where customers make calls most likely means that coverage will never be universally perfect.

Concluding that these two specific incidents demonstrate a systematic problem, however, requires a leap of faith not permitted by administrative law. The record presently before the Commission does not establish a systematic inability of cellular users to obtain emergency assistance. On the contrary, it shows that over 83,000 wireless calls to 9-1-1 are completed each day.⁵ It is incumbent upon the Alliance to prove that the strongest signal solution is not only technically feasible, but that it

⁴ The Alliance has presented two admittedly grim instances, one in 1994 and the other in 1997, when callers needing emergency assistance failed to obtain a usable voice channel on their presubscribed carrier. See Ex Parte filing of Alliance, CC Docket No. 94-102 (March 27, 1998); Ex Parte filing of Alliance, CC Docket No. 94-102 (February 3, 1998).

⁵ TIA Committee TR45, Standards Requirement Document, submitted by CTIA June 3-4, 1998.

will satisfy a public interest exigency -- a responsibility the Alliance has failed to discharge.

Over almost three years of comment on this issue, the Alliance has not proven the extent to which cellular callers are unable to obtain assistance when they dial 9-1-1. While the Alliance has performed signal strength tests in three cities and proven the obvious, that carriers' signal strengths vary from place to place, it has not demonstrated that these variations are an impediment to reaching the PSAP.⁶ The appropriate issue before the Commission is not whether calls are traveling along the strongest control channel, or whether causing them to do so is feasible, but rather whether emergency calls are getting through to public safety officials.⁷ While the two well-publicized instances where callers were unable to obtain a usable voice channel are tragic, two anecdotes and a field study with very limited probative value do not establish a systematic problem warranting FCC regulation.

⁶ Comments of the Ad Hoc Alliance for Public Access to 911 Concerning the Further Notice of Proposed Rulemaking at Appendices B and C (filed September 25, 1996) ("Alliance Comments").

⁷ See Home Box Office, 567 F.2d at 37 ("Setting aside the question whether siphoning [of programming from broadcast stations to cable] is harmful to the public interest, we must next ask whether the record shows that siphoning will occur.") Similarly, the record must show that emergency calls are not reaching PSAPs because they are being transmitted on the weaker control channel.

II. The Asserted Benefits Of A Strongest Signal Requirement Are Exceeded By Its Costs.

In considering and promulgating regulations, the Commission is obligated to undertake at least a minimal cost benefit analysis and to attempt to identify the most effective means for realizing its goals.⁸ This deliberation must necessarily take note of the scant record supporting strongest signal. Were the Commission to conclude, however, that existing holes in cellular coverage are a safety problem warranting a government mandated, industry-wide solution, it is incumbent on the Commission to not only consider alternative proposals,⁹ but to adopt the most effective solution.¹⁰

⁸ If the Commission determines that there is a sufficient problem warranting government intervention, there must be a "rational connection between the facts found and the choice made." Burlington Truck Lines v. U.S., 371 U.S. 156, 168 (1962). Thus, the Alliance has the burden of proving that the transmission of calls along the strongest signal must bear a relationship to the ability of callers to access emergency assistance. See Cincinnati Bell Telephone Co. v. F.C.C., 69 F.3d 752, 759 (6th Cir. 1995) (rebuffing the Commission's twenty percent cellular attribution standard as bearing "no relationship to the ability of an entity with a minority interest in a Cellular licensee to obtain a Personal Communications Service license and then engage in anti-competitive behavior."); Aeronautical Radio, Inc. v. F.C.C., 928 F.2d 428, 447 (D.C. Cir. 1991) (overturning the imposition of a cash-only deposit to prove financial viability because the "cash-only requirement bore no apparent relation to the true financial fitness.")

⁹ See Motor Vehicle Manufacturers Assn. v. State Farm Mutual Automobile Insurance Co., 463 U.S. 29, 48 (1983) (holding that an "alternative way of achieving the objectives of the Act should have been addressed and adequate reasons given for its abandonment.")

¹⁰ See Cincinnati Bell Telephone, 69 F.3d at 761 (6th Cir. 1995) ("The FCC is required to give an explanation when it declines to adopt less restrictive measures for promulgating its rules. . . . The FCC's conclusory statements, that its rule is based on 'common sense' economic conclusions . . .

A. Ad Hoc Alliance Has Failed to Prove the Benefits of the Strongest Signal Proposal.

Assuming *arguendo* that the Commission determines that a problem exists in that emergency cellular calls are not reaching PSAPs, the record does not support implementation of strongest signal as a solution. The Alliance has supplied no support for the notion that the transmission of calls along the network of the carrier with a weaker control channel is impairing the ability of callers to secure emergency assistance. In fact, the two anecdotes relied upon by the Alliance, if anything, only demonstrate that where a caller is absolutely unable to secure a voice channel with his or her presubscribed carrier, *i.e.* in a hole, the call will not go through. The Alliance itself concludes that it is not variable signal strength, but rather "these holes [that] can present a serious problem in emergency situations."¹¹

The record, however, is devoid of evidence which would demonstrate with any broad empirical support the benefits of switching callers to the other cellular carrier when there is a coverage hole.¹² The Alliance has failed to prove the extent to

wholly fail to provide a reasoned explanation as to why the less restrictive alternatives . . . are insufficient.")

¹¹ Reply Comments of the Ad Hoc Alliance for Public Access to 911 Concerning the Further Notice of Proposed Rulemaking at 3-4 (filed October 25, 1996) (emphasis added).

¹² See Alliance Comments at 7 (providing only one example supporting this proposition). The Alliance concludes from its studies in Los Angeles that there are holes in coverage, but that "when overlaid one upon the other, these two systems combined to fill in the holes." *Id.* This seems unlikely. Regardless, the Alliance's tests in Dallas and Atlanta plainly do not support the conclusion that each

which, nationwide, one cellular carrier's coverage hole is filled by the other cellular provider. In other words, the Alliance must show beyond its limited field studies, that if coverage holes are a problem they can be resolved by switching the caller to the other carrier. Without a clear demonstration of the quantitative benefits of the strongest signal proposal, it would be arbitrary for the Commission to impose such a solution. Thus, even before considering the costs of such a proposal, it appears that the Alliance has failed to prove, in any significant way, its merits.

B. Implementation of Strongest Signal Would Impose Unacceptable Costs On the Commission's Policy Objectives and On the Nation's Cellular Infrastructure.

Notwithstanding the dearth of analytical information, if the Commission went on to conclude that gaps in coverage are a significant problem warranting Commission regulation, and that switching callers to the other cellular provider in these instances has merit as a solution, the record demonstrates that the Alliance's proposal does so at an unacceptable cost to the network and to the Commission's wireless E911 policies. The Alliance has been unable to show that the costs of strongest

carrier's coverage holes are completely filled by the other cellular carrier. The only other evidence that switching carriers could be a solution to coverage holes, is the Alliance's statement that in the incident involving the Lechuga family the non-subscribed carrier had a usable signal. Ex Parte filing of Alliance, CC Docket No. 94-102 (March 24, 1998).

signal are outweighed by its benefits -- benefits which the record shows can be realized through coverage gap roaming.¹³

Moreover, its objection to this other, less costly solution is based upon one lone example, the accuracy of which is contested by the public safety community.¹⁴ A solution such as strongest signal, indifferent to costs, cannot be justified when other approaches to amelioration are at hand.

1. Automatic Location Identification

In this proceeding the Commission has sought to realize several public policy objectives, not the least of which is the deployment of automatic location identification ("ALI").¹⁵ The record demonstrates that many parties, including the public safety community, are concerned that strongest signal "is having a negative effect on the willingness of the carriers to move forward with location technology prior to October 1, 2001."¹⁶ In response to the concerns that the strongest signal requirement would serve as a disincentive to early deployment of ALI, the Alliance simply states that "the strongest signal feature should

¹³ See, e.g., Public Safety Commenters at 3 ("Given the indisputable fact that 'strongest signal' will eliminate the weaker carrier, and with it, half of the call handling capacity in the area, it is far less effective than programming cellular phones for A/B and B/A [roaming]."); Ex Parte filing of TruePosition, Inc., CC Docket No. 94-102 (filed May 8, 1998)

¹⁴ Public Safety Commenters at 4.

¹⁵ See Ex Parte filing of TruePosition, Inc., CC Docket No. 94-102 (filed May 8, 1998) (discussing the reasons which counsel against adopting the strongest signal requirement).

¹⁶ Public Safety Commenters at 2.

be enabled by default, but easily disabled by consumers who wish to make that election [in favor of ALI]."¹⁷ This response provides no reviewable indication as to its merits, or as to its technical or economic feasibility.

2. Impact to the Network

Similarly, the public safety community has raised concerns over the effects that a strongest signal requirement could have on the ability of existing wireless networks to complete emergency calls. By forcing all emergency callers within a specified area to utilize only one carrier, strongest signal would effectively reduce the capacity of the networks to manage multiple emergency calls by approximately fifty percent.¹⁸ Here too, the Alliance's reply is impermissibly conclusory. The Alliance does little more than assert that the expert emergency agencies are wrong.¹⁹ Its attempt to support this contention comes very close to admitting the absence of any problem justifying a strongest signal requirement. It argues that "in most high density areas the signal strength of the two carriers are nearly equal. The [Trott] study . . . showed that in such areas, the strongest signal changes back and forth from one carrier to the other as the subscriber travels over very short

¹⁷ Ex Parte filing of Alliance, CC Docket No. 94-102 (March 20, 1998) at 2.

¹⁸ See, e.g., Public Safety Commenters at 2.

¹⁹ Ex Parte filing of Alliance, CC Docket No. 94-102 (March 20, 1998).

distances."²⁰ In other words, most areas of the nation receive suitable access for wireless E911.

Conclusion

While the Alliance solution may seek to achieve a standard resulting in perfect call completion, the public safety agencies participating in this proceeding acknowledge that perfection is not only unattainable, pursuit of it through strongest signal will result in actual harm to the existing wireless E911 system and to far more important Commission initiatives. Efforts to mandate "perfection" without any consideration as to cost,²¹ especially on the basis of the record presently before the Commission in this proceeding, would be irresponsible. Justice Breyer refers to this type of perfectionist aspiration as "'the last 10 percent,' or 'going the last mile.'" The regulating agency considers a substance that poses serious risks. . . . It then promulgates standards so stringent . . . that the regulatory action ultimately imposes high costs without achieving significant additional safety benefits. . . . Removing that last little bit [of risk] can involve limited technological choice, high cost, devotion of considerable agency resources, large legal fees, and endless argument."²²

²⁰ Id. (emphasis added).

²¹ As noted throughout, the costs of mandating strongest signal are mostly manifested through its impact on other policy objectives the Commission and the public safety community are seeking to foster.

²² Stephen Breyer, Breaking the Vicious Circle: Toward Effective Risk Regulation 11 (1993) (citations omitted).

The Commission's regulations should be tailored to address the problem it seeks to resolve. In this instance, the Commission should, if it is convinced that there is a problem of sufficient magnitude to warrant intervention, and that the solution is to switch to the other cellular carrier, turn to solutions which do not produce the harms to public safety that strongest signal creates. This would allow a caller to access another carrier's network when he or she is unable to access a usable voice channel on the presubscribed carrier. This type of narrower approach better conforms with administrative law requirements because, unlike strongest signal, it secures the result without incurring unnecessary costs in the form of conflicts with other E911 public policy goals. Alternatively, a Commission determination that the one incident in which the strongest signal may have provided superior access to emergency assistance than coverage gap roaming,²³ and that the facts of this incident should control the outcome of this discussion, then it is in fact Justice Breyer's ten percent problem. The Commission would be, in effect, imposing regulation without regard to the cost imposed on the network, public safety, and the

²³ The Alliance contends that coverage gap roaming would not prevent the incident in which the caller was unable to have her voice call transmitted while the phone had registered with a control channel. The Alliance also contends that this incident would not have occurred had the handset been equipped with strongest signal technology. Ex Parte filing of Alliance, CC Docket No. 94-102 (March 20, 1998). A review of the Alliance's presentation of the call details of this incident, however, shows that none of the call attempts were to "9-1-1," thus, the caller would not have been switched to the strongest signal even if it had been deployed.

other public policy objectives the Commission has hoped to realize through this proceeding.